# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/802,519 | 03/09/2001 | Chang-Meng Hsiung | 185641-007810US | 9219 |

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| EXAMINER |
|---|
| KASENGE, CHARLES R |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2125 | |

DATE MAILED: 07/07/2003


Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 09/802,519 | HSIUNG ET AL. |
| | Examiner | Art Unit |
| | Charles R Kasenge | 2125 |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.    2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-43* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-22(restricted), 23-43(elected)* are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All  b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *11* .

4)☒ Interview Summary (PTO-413) Paper No(s). *13* .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

## DETAILED ACTION

### *Election/Restrictions*

1.      Restriction to one of the following inventions is required under 35 U.S.C. 121:

    I.      Claims 1-22, classified in class 700, subclass 95.

    II.     Claims 23-43, classified in class 700, subclass 29.

The inventions are distinct, each from the other because of the following reasons:

2.      Inventions of claims 1-22 and 23-43 are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed since the monitoring method comprising a model disclosed in claims 23-43 can be used for a variety of processes not limited to a manufacturing process, for example a computer graphic modeling system. The subcombination has separate utility.

3.      During a telephone conversation with Kent J. Tobin on 6/27/03 a provisional election was made with traverse to prosecute the invention of a method for monitoring a process comprising a model, claims 23-43. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4.      Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

application. Any amendment of inventorship must be accompanied by a request under 37 CFR

1.48(b) and by the fee required under 37 CFR 1.17(i).

### *Claim Rejections - 35 USC § 102*

5.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.      Claims 23-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Hales et al.

U.S. Patent 6,112,126. Referring to claims 23, 24, 25, and 38, Hales discloses a method for

monitoring a process, the method comprising: storing a first model in a memory (col. 9, lines 38-

50); acquiring data from a process (col. 5, lines 46-53); applying the first model to the data to

identify a first predicted descriptor characteristic of a state of the process (col. 3, lines 26-37);

and consulting a first knowledge based system to provide an output based upon the first

predicted descriptor (col. 7, lines 51-67). Hales discloses the method of claim 23 wherein the

model is constructed from a mathematical equation describing a physical law (col. 11, lines 52-

67). Hales discloses the method of claim 23 further comprising preprocessing the data prior to

applying the model (col. 8, lines 7-17). Hales discloses the construction of multiple models

influenced by previous models (col. 15, lines 35-44)

Referring to claims 26, 27, and 28, Hales discloses the method of claim 23 wherein the

output is communicated to control the process by adjusting an operational parameter of the

process (col. 5, lines 12-23). Hales discloses the method of claim 23 wherein the output is communicated to a human operator to permit monitoring of the process (col. 9, lines 25-37). Hales discloses the method of claim 23 wherein the output is resident on a server and accessible to a user through a browser software program (col. 20, lines 31-46).

Referring to claims 29, 30, 31, 32, and 41, Hales discloses the methods of claims 23 and 28 wherein the input is acquired from the process over a network of computers (col. 7, lines 42-55). Hales discloses the method of claim 23 wherein the output is communicated over a network to an associated system, the associated system including at least one of a legacy system, an e-enterprise system, and a desktop application (col. 9, lines 25-37). Hales discloses the method of claim 23 wherein the first knowledge based system is an expert system (col. 6 and 7, lines 66-67 and 1-22).

Referring to claims 33, Hales discloses the method of claim 23 further comprising: acquiring initial data from a source at a first time; converting the initial data into electronic form (col. 3, lines 1-4); loading the initial data into memory; retrieving the initial data from memory; acquiring subsequent data from the source at a second time; assigning a first descriptor to the initial data and a second descriptor to the subsequent data; constructing the model based upon the initial data, the subsequent data, the first descriptor, and the second descriptor; and storing the model in memory (col. 18, lines 3-26).

Referring to claims 34, 35, 36, and 37, Hales discloses the method of claim 33 wherein the model is constructed from one of a univariate statistical technique, a multivariate statistical technique (col. 9, lines 8-20), a neural-based approach, and a time series analysis (col. 7, lines 23-41). Hales discloses the method of claim 33 wherein the model is constructed from one of a

group of different algorithms stored in a library (col. 3, lines 42-50). Hales discloses the method of claim 33 wherein the source is in communication with the process, the initial data and the subsequent data reflecting prior operation of the process (col. 12, lines 5-22).

Referring to claims 39 and 40, Hales discloses a method of claim 38 wherein the second model is constructed based upon the initial data, the subsequent data, the first descriptor, and the second descriptor, such that comparison of the first descriptor and the second descriptor represents a cross-validation (col. 15, lines 35-44). Hales discloses the method of claim 38 wherein the second model is constructed from operation of a second process similar to the process, such that comparison of the first descriptor to the second descriptor represents an external validation (col. 15, lines 35-44).

Referring to claims 42 and 43, Hales discloses the method of claim 38 wherein a difference between the first predicted descriptor and the second predicted descriptor is resolved by a second expert system (col. 18, lines 44-64). Hales discloses the method claim 23 further comprising receiving key preliminary information and communicating the key preliminary information downstream to the first model, such that the first predicted descriptor reflects the key preliminary information (col. 8, lines 7-17).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R Kasenge whose telephone number is 703 305-8592. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 703 308-0538. The fax phone numbers for the

organization where this application or proceeding is assigned are 703 746-7239 for regular

communications and 703 746-7239 for After Final communications.

      Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703 308-0538.

CK
June 29, 2003

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100